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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,073	12/13/2000	David J. Elliott	UV-102J	7710

7590 11/03/2006

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EXAMINER	
CROWELL, ANNA M	

ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/736,073	ELLIOTT ET AL.	
	Examiner	Art Unit	
	Michelle Crowell	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14, 16-20, 23-29, and 34-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14, 16-20, 23-29, and 34-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-14, 16-20, 23-27, 29, and 34-39 are pending in the application. Claims 1-14, 16-20, 23-27, 29, and 34-39 are rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 4-13, 17-20, 24-25, 29, 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (J.P. 62-047482A) in view of Elliott et al. (U.S. 5,814,156).

Referring to Drawing 1 and the abstract, Miyagawa et al. disclose a reactor comprising: a beam forming module 3 to transform a radiation source raw output into a beam; a gas injection module 4 inside a reaction chamber to deliver at least one reactant gas to the substrate surface; a

reaction chamber 12 with a window 6 through which the beam forming module projects the beam; a vacuum chuck 9 for holding the substrate; and a gas exhaust module 5 inside the chamber to remove reaction by-products and unreacted reactant gas from the substrate surface, wherein the gas injection module and the gas exhaust module are in close proximity to the beam, and wherein the beam, the gas injection module and the gas exhaust module are movable relative to the reaction chamber and the substrate surface.

Miyagawa et al. fail to specifically teach a **UV** radiation source transformed into a **rectangular** beam.

Referring to column 3, lines 39-42, Elliott et al. teach that it is conventionally known in the art for a beam forming module to transform a UV radiation source raw output into a rectangular beam. Additionally, Elliott et al. teach that it is conventionally known in the art for a UV radiation source to be used as the laser source in order to process a substrate at the appropriate energy (col. 1, lines 29-32, col. 4, lines 4-7, col. 6, lines 51-57, col. 7, lines 21-26, col. 8, lines 48-61). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention for the apparatus of Miyagawa et al. to use a UV radiation source that transforms into rectangular beam as taught by Elliott et al. since it conventionally known in the art and UV light is a desired energy level to process a substrate.

With respect to claims 7-13 and 25, the apparatus of Miyagawa et al. discloses a deposition reaction; however, Miyagawa et al. is still further capable of administering the various claimed processes with the appropriate processing materials supplied to the chamber. (i.e. etching reaction, deposition reaction, oxidation reaction, reduction reaction, melting reaction, reaction for modifying a metallic or non-metallic film, polymerization or UV curing reaction,

and doping reaction). Furthermore, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

With respect to claims 2 and 4-6, Miyagawa et al. fail to teach the wavelength of the UV radiation source raw output, energy level of the rectangular beam, optical elements, two cylindrical refractive elements.

Referring to column 4, lines 4-15, and column 5, lines 53-59, Elliott et al. teaches an apparatus which uses an ultraviolet radiation beam to clean (etch) the surface of a substrate. The laser source 22 provides a pulsed beam 24 (ultraviolet radiation beam) at wavelengths of 248 nm and 193 nm. Typical energy density levels at 248 nm range from 250-1500 mJ/cm^2 (0.25 – 1.5 J/cm^2). The laser source 22 further includes a beam expanding system 26 (beam forming module) made up of two cylindrical mirrors 54 and 56 (two cylindrical refractive elements). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Miyagawa et al. with the wavelength of the UV radiation source raw output, energy level of the rectangular beam, optical elements, and two cylindrical refractive elements as taught by Elliott et al. in order to ensure the appropriate wavelength and energy level necessary for the desired process. In addition, the cylindrical refractive elements (optical elements) create the rectangular beam in the desired dimension.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (J.P. 62-047482A) in view of Elliott et al. (U.S. 5,814,156).as applied to claims 1-2, 4-13, 17-20, 24-25, 34-35 above, and further in view of Schmidt et al. (U.S. 4,624,330).

The teachings of Miyagawa et al. in view of Elliott et al. are discussed above.

Miyagawa et al. in view of Elliott et al. fails to teach the dimensions of the rectangular beam.

Referring to column 2, lines 47-52, Schmidt et al. shows an ultraviolet beam 6 directed on vessel 1 with a length of 600 mm and width of 1mm.

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Miyagawa et al. in view of Elliott et al. with the dimensions as shown by Schmidt et al. in order to ensure the appropriate dimension of the rectangular beam necessary for the desired process.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (J.P. 62-047482A) in view of Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 17-20, 24-25, 34-35 above, and further in view of Giapis et al. (U.S. 5,002,631).

The teachings of Miyagawa et al. in view of Elliott et al. are discussed above.

Miyagawa et al. in view of Elliott et al. fails to teach a block shaped manifold.

Referring to Figure 1 and column 3, lines13-15, Giapis et al. teaches a valve-controlled aperture 103 (block shaped manifold) with pump used to exhaust out gaseous reaction products. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Miyagawa et al. in view of Elliott et al. with the valve-controlled aperture as taught by Giapis et al. in order for gaseous reaction products to be exhausted.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (J.P. 62-047482A) in view of Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 17-20, 24-25, 34-35 above, and further in view of Lee et al. (U.S. 6,374,770).

The teachings of Miyagawa et al. in view of Elliott et al. are discussed above.

Miyagawa et al. in view of Elliott et al. fails to teach an electronic control module.

Referring to Figure 1 and column 4, lines 46-50, Lee et al. teaches a CVD apparatus which uses a processor 34 operated by a computer program stored in memory 38 for a deposition reaction. The computer program selects the timing, mixture of gases, chamber pressure, chamber temperature, RF power levels, susceptor position, and other parameters of a particular process. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Miyagawa et al. in view of Elliott et al. with a processor as taught by Lee et al. in order to control various processing parameters to yield the optimum processing environment for deposition.

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (J.P. 62-047482A) in view of Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 17-20, 24-25, 34-35 above, and further in view of Murakami et al. (U.S. 6,090,458).

The teachings of Miyagawa et al. in view of Elliott et al. are discussed above.

Miyagawa et al. in view of Elliott et al. fails to specifically teach the vacuum chuck includes a heating element.

Referring to column 4, lines 33-36, Murakami et al. teaches a heating element is included in the vacuum chuck in order to balance the temperature of the substrate with the temperature of the reactive gas as well as control the volume of the reactive gas molecules adsorbed to the surface of the substrate. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vacuum chuck of Miyagawa et al. in view of Elliott et al. with a heating element as taught by Murakami et al. chuck in order to balance the temperature of the substrate with the temperature of the reactive gas as well as control the volume of the reactive gas molecules adsorbed to the surface of the substrate.

9. Claims 1-2, 4-13, 16-20, 24-25, 27, 29, and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al. (J.P. 07-111246A) in view of Hama (J.P. 63-153277A) and Elliott et al. (U.S. 5,814,156).

Referring to Drawing 1 and paragraphs [0009]-[0021], Oki et al. disclose a reactor comprising: a beam forming module 11 to transform a radiation source raw output into a beam (par. [0010]); a gas injection module 31 inside the reaction chamber to deliver at least one reactant gas to the substrate surface 33 (par. [0012]); a reaction chamber 30 with a window 34

through which the beam forming module projects the beam (par. [0012] &[0016]); a vacuum chuck 37 for holding the substrate (par. [0012]); and a gas exhaust module 32 inside the chamber to remove reaction by-products and unreacted reactant gas from the substrate surface (par. [0012]); wherein the gas injection module and the gas exhaust module are in close proximity to the beam (Drawing 1).

Oki et al. fail to specifically teach a **UV** radiation source transformed into a **rectangular** beam.

Referring to column 3, lines 39-42, Elliott et al. teach that it is conventionally known in the art for a beam forming module to transform a UV radiation source raw output into a rectangular beam. Additionally, Elliott et al. teach that it is conventionally known in the art for a UV radiation source to be used as the laser source in order to process a substrate at the appropriate energy (col. 1, lines 29-32, col. 4, lines 4-7, col. 6, lines 51-57, col. 7, lines 21-26, col. 8, lines 48-61). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention for the apparatus of Oki et al. to use a UV radiation source that transforms into rectangular beam as taught by Elliott et al. since it conventionally known in the art and UV light is a desired energy level to process a substrate.

Oki et al. fail to teach that the beam or beam forming module, the gas injection module and the gas exhaust module are movable relative to the reaction chamber and the substrate surface.

Referring to Drawing 1 and the abstract, Hama teaches that it known to move a beam and nozzle 6 across a stationary substrate surface 3 in order to permit processing over a large area substrate without moving the substrate. Thus, it would have been obvious to one of ordinary

skill in the art at the time of the invention to alternatively move the beam or beam forming module, gas injection module, and the gas module of Oki as taught by Hama since this permits processing over a large area substrate without moving the substrate.

With respect to claims 7-13 and 25, the apparatus of Oki et al. discloses a deposition reaction; however, Oki et al. is still further capable of administering the various claimed processes with the appropriate processing materials supplied to the chamber. (i.e. etching reaction, deposition reaction, oxidation reaction, reduction reaction, melting reaction, reaction for modifying a metallic or non-metallic film, polymerization or UV curing reaction, and doping reaction). Furthermore, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

With respect to claims 2 and 4-6, Oki et al. fail to teach the wavelength of the UV radiation source raw output, energy level of the rectangular beam, optical elements, two cylindrical refractive elements.

Referring to column 4, lines 4-15, and column 5, lines 53-59, Elliott et al. teaches an apparatus which uses an ultraviolet radiation beam to clean (etch) the surface of a substrate. The laser source 22 provides a pulsed beam 24 (ultraviolet radiation beam) at wavelengths of 248 nm and 193 nm. Typical energy density levels at 248 nm range from 250-1500 mJ/cm^2 (0.25 – 1.5 J/cm^2). The laser source 22 further includes a beam expanding system 26 (beam forming

module) made up of two cylindrical mirrors 54 and 56 (two cylindrical refractive elements). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Oki et al. with the wavelength of the UV radiation source raw output, energy level of the rectangular beam, optical elements, and two cylindrical refractive elements as taught by Elliott et al. in order to ensure the appropriate wavelength and energy level necessary for the desired process. In addition, the cylindrical refractive elements (optical elements) create the rectangular beam in the desired dimension.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al. (J.P. 07-111246A) in view of Hama (J.P. 63-153277A) and Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 16-20, 24-25, 27, 29, and 34-37 above, and further in view of Schmidt et al. (U.S. 4,624,330).

The teachings of Oki et al. in view of Hama and Elliott et al. are discussed above.

Oki et al. in view of Hama and Elliott et al. fails to teach the dimensions of the rectangular beam.

Referring to column 2, lines 47-52, Schmidt et al. shows an ultraviolet beam 6 directed on vessel 1 with a length of 600 mm and width of 1mm.

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform

differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Oki et al. in view of Hama and Elliott et al. with the dimensions as shown by Schmidt et al. in order to ensure the appropriate dimension of the rectangular beam necessary for the desired process.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al. (J.P. 07-111246A) in view of Hama (J.P. 63-153277A) and Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 16-20, 24-25, 27, 29, and 34-37 above, and further in view of Giapis et al. (U.S. 5,002,631).

The teachings of Oki et al. in view of Hama and Elliott et al. are discussed above.

Oki et al. in view of Hama and Elliott et al. fail to teach a block shaped manifold.

Referring to Figure 1 and column 3, lines13-15, Giapis et al. teaches a valve-controlled aperture 103 (block shaped manifold) with pump used to exhaust out gaseous reaction products. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Oki et al. in view of Hama and Elliott et al. with the valve-controlled aperture as taught by Giapis et al. in order for gaseous reaction products to be exhausted.

12. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al. (J.P. 07-111246A) in view of Hama (J.P. 63-153277A) and Elliott et al. (U.S. 5,814,156) as applied to

claims 1-2, 4-13, 16-20, 24-25, 27, 29, and 34-37 above, and further in view of Lee et al. (U.S. 6,374,770).

The teachings of Oki et al. in view of Hama and Elliott et al. are discussed above.

Oki et al. in view of Hama and Elliott et al. fail to teach an electronic control module.

Referring to Figure 1 and column 4, lines 46-50, Lee et al. teaches a CVD apparatus which uses a processor 34 operated by a computer program stored in memory 38 for a deposition reaction. The computer program selects the timing, mixture of gases, chamber pressure, chamber temperature, RF power levels, susceptor position, and other parameters of a particular process. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Oki et al. in view of Hama and Elliott et al. with a processor as taught by Lee et al. in order to control various processing parameters to yield the optimum processing environment for deposition.

13. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al. (J.P. 07-111246A) in view of Hama (J.P. 63-153277A) and Elliott et al. (U.S. 5,814,156) as applied to claims 1-2, 4-13, 16-20, 24-25, 27, 29, and 34-37 above, and further in view of Murakami et al. (U.S. 6,090,458).

The teachings of Oki et al. in view of Hama and Elliott et al. are discussed above.

Oki et al. in view of Hama and Elliott et al. fails to specifically teach the vacuum chuck includes a heating element.

Referring to column 4, lines 33-36, Murakami et al. teaches a heating element is included in the vacuum chuck in order to balance the temperature of the substrate with the temperature of the reactive gas as well as control the volume of the reactive gas molecules adsorbed to the surface of the substrate. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vacuum chuck of Oki et al. in view of Hama and Elliott et al. with a heating element as taught by Murakami et al. chuck in order to balance the temperature of the substrate with the temperature of the reactive gas as well as control the volume of the reactive gas molecules adsorbed to the surface of the substrate.

Response to Arguments

14. Applicant's arguments filed August 18, 2006 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 38-39 in view of Miyagawa et al. have been considered but are moot since claims 38-39 are not rejected by Miyagawa et al.

With respect to claims 1, 29, 34-35, applicant has argued that Miyagawa et al. fail to teach an exhaust module and that it is located inside of the chamber; however, the independent claims simply require that the gas exhaust module is inside the chamber and that it removes reaction products and unreacted reactant gas from the substrate. Therefore, since the gas outlet 5 of Miyagawa et al. removes reaction products and unreacted gas from the substrate, it acts as a gas exhaust module. Additionally, the gas outlet 5 is capable of removing gases in the chamber and at the substrate surface. Furthermore, even if applicant believes that the gas outlet 5 is not a gas exhaust module, the gas outlet 5 is definitely a portion of a gas exhaust module. Drawing 1

of Miyagawa et al. clearly shows that gas outlet 5 is located inside the chamber. Hence, since the claims fail to require that the **entire** gas exhaust module is located inside the chamber, the combinations of Miyagawa et al. in view of Elliott et al. satisfy the claim since the inlet portion 5 of gas exhaust module is located inside the chamber.

Applicant's arguments with respect to claim 36 in view of Miyagawa et al. have been considered but are moot since claim 36 is not rejected by Miyagawa et al.

With respect to claims 38-39, applicant has argued that Oki et al. fail to teach gas and exhaust modules and that they are located inside of the chamber; however, the independent claims simply require that the gas injection module is inside the chamber and it delivers at least one reactant gas to the substrate surface, and the gas exhaust module is inside the chamber and it removes reaction products and unreacted reactant gas from the substrate. Therefore, since the gas inlet 31 of Oki et al. delivers at least one reactant gas to the substrate surface 33, it acts as a gas injection module. Similarly, since the exhaust port 32 of Oki et al. removes reaction products and unreacted gas from the substrate, it acts as a gas exhaust module. Additionally, as seen in Drawing 1, the exhaust port 32 is capable of removing gases in the chamber and at the substrate surface 33. Furthermore, even if applicant believes that the gas inlet and exhaust port of Oki et al. is not a gas injection module and gas exhaust module, then the gas inlet 31 is clearly a portion of the gas injection module and the exhaust port 32 is clearly a portion of the gas exhaust module. Drawing 1 of Oki et al. clearly shows that the gas inlet 31 and exhaust port 32 are located inside the chamber. Hence, since the claims fail to require that the **entire** gas injection module and the **entire** gas exhaust module is located inside the chamber, the combinations of Miyagawa et al. in view of Elliott et al. satisfy the claimed requirements since

the gas inlet 31 of the gas injection module and exhaust port 32 of gas exhaust module is located inside the chamber.

Applicant has argued that there is no motivation to combine Oki with Hama since Hama simply teaches moving a nozzle for a beam and not moving the gas injection module or a gas exhaust module; however, arrow 31 shows that the nozzle 6 of Hama is the movable gas injection module and arrow 32 of Hama shows that the beam 7 is movable. Thus, since a gas injection module 31, a gas exhaust module 32, and beam 1 is a whole, integral part of the nozzle of Oki, based on the teachings of Hama, one of ordinary skill would simply move the entire nozzle unit (gas injection module, gas exhaust module, beam) of Oki across the substrate since it's an integral unit. The motivation to combine Oki et al. with Hama et al. is to permit processing over a large area without moving the substrate.

Applicant has argued that combining Oki et al. and Hama et al. would destroy the primary purpose of each; however, Hama et al. clearly teaches that it's known in the art to process a substrate by either moving 31, 32 a nozzle 6 and a beam 7 while keeping the substrate 3 stationary as seen in Drawing 1 or by alternatively moving 13 a substrate 3 while keeping a nozzle 6 and a beam 7 stationary as seen in Drawing 3. Therefore, by combining Oki et al. with Hama et al., the teachings suggest that moving the beam, gas injection module, and gas exhaust module of Oki et al. is an alternate method of processing a substrate. Additionally, applicant has argued that the beam of Oki et al. is vertical and beam of Hama is horizontal; however, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of

the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, Hama was applied to teach moving a beam. Thus, the combination of Oki in view of Hama teaches moving the vertical beam of Oki and not changing the location of the beam.

Applicant has argued that the Examiner engaged in hindsight analysis; however, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In the instant application, Hama et al. clearly teaches the benefit of moving the nozzle 6 and beam 7 in order to permit processing over a large area without moving the substrate. Thus, the motivation to combine Oki et al. with Hama et al. is to permit processing over a large area without moving the substrate.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (571) 272-1432. The examiner can normally be reached on M-F (9:30 -6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michelle Crowell
Patent Examiner
Art Unit 1763

Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763